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Improving data dissemination: New challenges for cohesion policy – Polish experience

Note by the Central Statistical Office of Poland

Summary

The paper presents the activities undertaken by the Central Statistical Office of Poland to develop a dissemination policy that will enhance communication with users. The office created an innovative dissemination system to take into account the needs of policymakers. The system is dedicated particularly to users interested in monitoring cohesion policy as well as national and regional development in Poland. The system provides tools for data presentation and analysis.

The paper is presented for discussion to the second session of the Conference of European Statisticians' seminar "Modernization of statistical production and services and managing for efficiency".

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I. Introduction

1. With the approval of the Lisbon Treaty the scope of cohesion policy has changed — social and economic issues have been complemented by a territorial aspect. The discussion on this topic has emphasized the role of official statistics as a data source. Official statistics are considered essential for creation as well as monitoring and evaluation of policy objectives. National statistical offices acting as producers of official statistics face the challenge of data dissemination in the 21st century.

2. The way and quality of communicating information determine the recipients' perception of socio-economic reality as well as their attitude towards official statistics. The policy of modern approach to data dissemination should be guided by usability and attractiveness of statistical products and services. Engaging designs, intuitive functionalities, interactive applications and data visualization are nowadays of utmost importance for statistical data recipients, especially for users who are not statistical experts. Effective mutual communication is a key in satisfying both data users' and producers' needs.

II. Recent advances in data dissemination

3. In response to the need of enhancing communication with users, the Central Statistical Office of Poland (CSO) not only constantly tries to implement new solutions, but also to improve existing dissemination channels. CSO created an innovative dissemination system to take into account the needs of policymakers. The system called STRATEG, is an example of the recent advances in the CSO data dissemination channels. Moreover, Geostatistics Portal and Domain Databases are another example of innovative products. The work will continue as the Local Data Bank, the richest data collection system, will undergo substantial modernization in the short-term.

A. STRATEG system

4. The Central Statistical Office of Poland, as a key partner in creating an effective system for monitoring of cohesion policy and institution establishing information standards, has taken up activities aiming at developing a forward-looking dissemination policy to enhance communication with various user groups. The STRATEG system was developed specially to take into account the needs of policymakers for evidence-based policy making and for results-oriented management.

5. The actual database and the interface of the system are both based on well-known technologies. However, the innovative character of the system lies in its focus on supporting policy making. It provides statistical indicators and visually attractive forms of data presentation. The project, financed by the European Union (EU) under the Human Capital Operational Programme, is implemented by CSO in cooperation with the Ministry of Infrastructure and Development. This project is an example of a successful collaboration of statisticians with decision-makers.

6. The main aim of the project was to create a database system which will facilitate the process of planning and monitoring of development. Collecting all indicators significant to the monitoring process of the development policy in one place allows easy access to official statistics as well as other information systems (more than 80 national and international sources). The basis of the information resources of STRATEG system is formed by indicators from strategic documents – the Europe 2020 strategy in force at the EU level, and strategic documents binding in Poland. STRATEG is also meant to function as a

system for monitoring the cohesion policy. For this purpose, indicators are being compiled in the system with a view to monitoring the strategic goals included in the Partnership Agreement for 2014-2020 as well as in the related national and regional operational programmes.

7. Apart from extensive information resources in the database, the system enables visualization of indicators in form of charts and maps, which considerably facilitates data analysis process. Visualization modules are equipped with a range of functionalities enabling the creation of various graphic forms. Apart from static visualization, it is also possible to view charts and maps in an animated form, with visible changes occurring in the subsequent years. The function enabling export and visualization for different formats makes it possible to use the system resources directly for publications or reports, which considerably improves the process of reporting on the implementation of strategic documents.

8. CSO as a creator and maintainer of the STRATEG system has decided to use it as a channel for effective communication and education in the field of statistics. Accordingly, a separate module was created within the application, named "Metadata and analyses". It collects a range of methodological information, analytical reports and statistical publications. Furthermore, detailed indicator profiles were prepared to present information on a given indicator, inter alia, its definition, overall methodological explanation, source of origin, available variables, comments on possible interpretation and usage, as well as a list of documents with targets for monitoring. For users looking for a quick and easy access to indicator metadata, a separate element with a search option was created to select and present definitions of basic terms. As an important component of statistical education, the system includes dedicated analytical information module which collects a range of analytical reports, statistical publications and short analytical comments on current socio-economic situation and trends concerning a given subject. The above mentioned functionalities, characterized by clarity, simplicity and open accessibility, constitute a significant support to analytical work.

9. Ensuring accessible and visually-appealing forms of data presentation was one of the biggest challenges when developing the system. Firstly, a review of information systems available throughout the world was conducted, including databases of international organizations, in order to identify good practices that could be applied in the new system. When determining the final structure of the system, the needs of the future users were important to consider. User dialogue was at the centre of each stage of the project implementation. Particularly important were workshops during which the trial version of the system was presented. The meetings offered a great opportunity of showing users the structure of the system and its functionalities, which allowed for constructive discussion and provision of feedback and suggestions to be considered in the project. Thus, the users had the possibility to participate in the development of the system and influence its final shape.

10. Being aware that statistical indicators gathered in the database can represent a methodological challenge, the subsequent development stages of STRATEG as a system for monitoring the cohesion policy, involved the preparation of a methodological guide. The guide will facilitate interpretation of the cohesion policy indicators. The manual serving as a guideline on key indicators for monitoring cohesion will give a general understanding, clear descriptions facilitating analysis and interpretation of statistical measures, explanation of their possible consequences or implications as well as reference to the source of information. Moreover, in the short-term STRATEG will be supplied with data from two regions of the Nomenclature of Territorial Units for Statistics (NUTS). This level of detail will facilitate socio-economic analyses of the EU regions and regional policies.

11. By creation and launch of the STRATEG system, CSO has made a step towards developing and implementing a forward-looking data dissemination policy. The STRATEG system is not only a comprehensive tool providing information on planning and monitoring of progress, but foremost a good example of an effective data dissemination and communication channel used by various user groups.

B. Geostatistics Portal

12. The Geostatistics Portal is yet another example of a modern solution of the Polish official statistics. The Portal uses Geographic Information System technology for spatial presentation of statistical data. The Portal was developed to supplement the CSO information services and to address growing users' demand for dissemination of statistical data at the most detail regional level. The main function of the Portal is to collect, present and provide information to a wide audience, including public administration, entrepreneurs, individual users and research institutions.

13. The construction and launch of the Geostatistics Portal comply with the main aim of CSO to provide statistical support for planning and monitoring of progress. The Portal was established, among other purposes, to acquire essential information for carrying out interventions at general and local government level, and to start, develop or change professional activity profile of private persons and economic entities. The Portal will facilitate monitoring of a given area, performing analyses, simulations and forecasts, estimating various risks and developing risk prevention. The project contributes to creating a complete and consistent e-Administration system. This will also support the development of entrepreneurship as it facilitates access to current information on the socio-economic situation of the country, and is, therefore, strategic for the economy.

14. The Geostatistics Portal is a tool for interactive presentation and dissemination of data with the use of choropleth maps and various types of diagram maps. The basic set of data in the Geostatistics Portal presents the results of censuses, processed in the Analytical Microdata Base (ABM). Since 2014, the Portal also allows to create thematic maps based on data from the Local Data Bank (BDL). The intuitive interface of the Geostatistics Portal gives users a quick and easy access to statistics and they can set their own visualization parameters for each statistic. Additionally, users have access to basic tools such as object identification, selection of objects on the map, locality search engine, address search engine (available for internal users) and attribute-spatial search engine. The Portal allows to print a selected area on the map or export it to a selected format.

15. The Polish official statistics is planning to expand and enhance the existing functionalities of the Geostatistics Portal. The project for the Geostatistics Portal expansion was submitted to the Programme Innovative Economy 2007-2013 (extended perspective) and the Operational Program Digital Poland 2014-2020. At present, the Geostatistics Portal allows for the presentation of the results of censuses and the Local Data Bank. Ultimately, CSO would like to allow access to spatial data obtained from other statistical surveys covered by the survey programme of official statistics. As a further part of the expansion, it is planned to implement functionalities that facilitate presentation of phenomena by other regional classifications. For example, in kilometre grids, which is specified in the implementing regulations of the infrastructure for spatial information in Europe (INSPIRE) Directive. There are also plans for modernization of searching, browsing and downloading services, as well as the centralisation of spatial data produced and maintained by the official statistics. It is worth stressing that the strength and uniqueness of the Geostatistics Portal lies in the nature of the data, held only by the official statistics services.

16. The Geostatistics Portal is an example of an innovative comprehensive solution tailored to the European standards. The system provides all interested users with a complex

source of information and knowledge, especially the representatives of public administration and other entities engaged in the process of programming development and analysis of achievements towards the implementation of development objectives.

C. Domain Databases

17. A further solution aiming to support the system of monitoring cohesion policy, implemented by the Central Statistical Office as a part of the Statistics Information System Project (SISP) 2 project, is the creation and launch of the Domain Databases. The construction of Domain Databases complies with the overriding objective of the SISP-2 project that is enhancing the role of official statistics in the state information system, through the modernization of information technology infrastructure and data dissemination channels.

18. Domain Databases, using the Analyses and Decisions Support System (SWAiD), enable access to a wide set of data provided by the official statistics, consistent with the research connected with the Program of Official Statistics. Their thematic scope covers the main information needs of statistical data users. The Domain Databases were constructed based on mutually complementary and compatible systems, i.e. statistical data warehouse, public data warehouse, statistical metadata system as well as analyses and decisions support system, which enables their flexible expansion and implementation of new products.

19. The Domain Databases provides the opportunity of statistical data visualisation in form of tables, charts and maps, as well as their download and usage for own analytical publications. Solutions used in Domain Databases, including a standardized form of reports, make user's work easier, allowing at the same time for adjustment of data to individual needs. Domain Databases allow for a simplified transition from data to information, through knowledge and finally to evidence-based decisions.

20. The Domain Database Project assumes also the launch of multidisciplinary database – mobile application adjusted for the needs of smartphone and tablet users. The application will include a set of the most recent and in demand indicators. Moreover, in order to support works of Internal Statistical Information Centres, a special database with essential news and data will be developed, which at the same time will serve as a platform for internal communication and exchange of good practices. The database allows to perform quick actions aimed at sharing the most desirable information for statistical data recipients from various thematic areas, available at the lowest possible territorial levels.

21. Despite data resources typical of digital datasets, Domain Databases ensure access to information supporting the comprehension of statistical data, including methodological explanation, additional information connected with particular areas, as well as links to recommended publications, studies and events.

D. Local Data Bank

22. As the information society develops continuously, it is necessary for statisticians to meet the expectations addressed to official statistics by various user groups. The years of improvement effort have developed the Polish official statistics into a system of comprehensive statistical information available on various regional levels. The Local Data Bank (LDB) is one of the most crucial elements of the information system of public statistics.

23. LDB is the largest systematized free-of-charge database platform that is available on-line in Poland. It provides reliable and up-to-date information on social, economic and

environmental processes in Poland for country, regional and local level. As it is possible in many other popular databases, users of the LDB are allowed to generate tables and charts. The Bank describes voivodships (NUTS 2), powiats (Local Administrative Units (LAU) level 1) and gminas (LAU 2) as elements of social and administrative organization of the country, as well as regions (NUTS 1) and subregions (NUTS 3) that are part of the classification of territorial units for statistics.

24. LDB is the most generous public database which consists of data from the following sources:

- Statistical surveys included in the Programme of Statistical Surveys of the Public Statistics, as well as results of national censuses (1996, 2002, 2010 – the National Agricultural Census; 1988, 2002, 2011 – the National Census of Population and Housing);
- Registers: REGON (National Official Business Register), TERYT (National Official Register of the Territorial Division of the Country);
- Eurostat and OECD Typology – urban and rural units;
- Administrative sources (inter alia: information systems).

25. The content of LDB is constantly updated on the basis of identification of users' needs and new data sources. The total number of variables available in LDB has reached above 41,000.

26. The LDB collects annual data (since 1995-2014) and short-term data (e.g. monthly, quarterly and half-yearly for the years 2005-2015). Bearing in mind various information demands and the diverse advancement level in operating Internet information systems by users, the Bank offers simple pre-defined comparisons and modules (Territory Portrait, Sustainable Development Indicators, All data for the locality).

27. Nowadays, new functionalities of the LDB are being developed, such as tools for the graphic data visualisation. Last year the data presentation on maps in the Geostatistics Portal was improved.

III. Conclusions

28. Effective data dissemination by official statistics is probably one of the most important factors determining user's ability to translate statistical data into knowledge. Taking into account users' needs while creating statistical products and services, the Polish official statistics give priority to activities aiming at the enhancement of forms and ways of data dissemination. Accordingly, the activities supporting data dissemination remain a key point in the CSO dissemination policy. Innovative approaches and new technological solutions to data dissemination foster better understanding of data, and at the same time could improve communication with users and thus increase use of data available.

29. The presented examples of the advances in data dissemination in CSO harness the potential of emerging technologies and explore new approaches to improve outreach by better dissemination to central and regional authorities. Data dissemination systems enhance the availability of timely and comprehensive statistics, which as a result may contribute to sound macroeconomic policies and the efficient functioning of the economy.